

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Inventors: Naoyasu MIYAGAWA, et al. Prior Art Unit: 2655

Appln. No.: Contin. Application Prior Examiner: N. Hindi
of Serial No. 09/460,223
filed December 13, 1999

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For: OPTICAL RECORDING/REPRODUCING APPARATUS FOR OPTICAL
DISKS WITH VARIOUS DISK SUBSTRATE THICKNESS

STATEMENT OF STATUS OF CLAIMS AND SUPPORT
FOR ALL CHANGES TO THE CLAIMS

The Honorable Commissioner of
Patents and Trademarks
Washington, D.C. 20231

Sir:

Pursuant to 37 CFR 1.173(c), it is hereby stated that:

Original claims 1-24 are canceled.

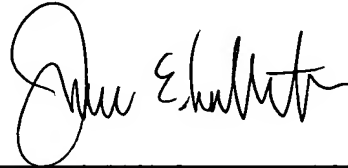
New method claims 25-28 are added.

Support for the new claims is found at least in original Figs.
1-4B, and 7-11 and the portions of the specification discussing
those figures, beginning at col. 3, line 64.

As examples of how the elements of new claims 25-28 may be
read on the disclosed subject matter, the Exhibit attached hereto
shows new claims 25-28 with reference numerals and pertinent
specification portions inserted therein.

The references in Exhibit I to the specification and drawings are for illustrative purposes only pursuant to 37 CFR 1.173(c), to enable the Office to more quickly determine instances where the claimed subject matter is described in the application. The cited subject matter is not intended to be an exhaustive citation of corresponding structure, operations or acts supporting the present claims. These references are non-limiting of the scope of the invention to the referenced embodiments and no estoppel should be deemed to attach thereto.

Respectfully submitted,



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Date: October 23, 2003

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Exhibit

25. A signal processing circuit used for an optical disc apparatus which includes a light source driving circuit 20, 21 for controlling a plurality of light sources 63, 69 and which records, reproduces or erases an information signal onto/from any one of N types (where $N \geq 2$) of optical discs 1 having transparent substrates (col. 2, line 9 from the bottom) of different thicknesses (col. 4, lines 6-8; Figs. 4A, 4B), each of said types of optical discs 1 having at least a said transparent substrate and an information layer, by converging a light beam emitted from one of the light sources 63, 69 according to a control signal from the light source driving circuit 20, 21 onto the information layer through the transparent substrate, each of said light sources corresponding to a respective one of said disc types, and by detecting a reflected light beam with an optical detector 68, 74, the signal processing circuit comprising:

a discriminating signal generator 9, connected with the optical detector 68, 74, for generating a disc discrimination signal indicating the one of said types of optical discs (col. 4, line 64 et seq.); and

a controller 22 for controlling the light source driving circuit 20, 21 to selectively activate one of the lights sources 63, 69 according to the disc discriminating signal.

26. An optical disc signal processing circuit used for an optical disc apparatus which records, reproduces or erases an information signal onto/from any one of N types (where $N \geq 2$) of optical discs 1 having transparent substrates (col. 2, line 9 from the bottom) of different thicknesses (col. 4, lines 6-8; Figs. 4A, 4B), each of said types of optical discs 1 having at least a said transparent substrate and an information layer, by converging a light beam emitted from a light source onto the information layer through the transparent substrate, and by detecting a reflected light beam to convert the beam into an electric signal (col. 4, line 5 et seq.), the optical disc signal processing circuit comprising:

a discriminating signal generator 9 for discriminating said types of optical discs 1 by using the electric signal and generating a discrimination signal indicating the one of said types of optical discs 1.

27. An optical disc signal processing circuit according to claim 1, wherein the electric signal is a tracking error signal (col. 4, line 26 et seq.).

28. A signal processing circuit used for an optical disc apparatus which records, reproduces or erases an information

signal onto/from any one of N types (where $N \geq 2$) of optical discs having transparent substrates (col. 2, line 9 from the bottom) of different thicknesses (col. 4, lines 6-8; Figs. 4A, 4B), the optical disc apparatus including:

- optical discs 1 each having at least a said transparent substrate and an information layer;

- a light source driving circuit 20 for controlling emission of a light source;

- a focusing control circuit 13 for controlling a focus of a converging section for converging a light beam emitted from the light source;

- an optical detector 38 for detecting a light beam reflected on the information layer via the transparent layer;

- a tracking control circuit 11 for controlling a tracking of the light beam converged by the converging section; and

- a digital signal processing circuit 19 for modulating and/or demodulating the signals to be recorded and/or reproduced,

- the signal processing circuit 19 comprising:

- a discriminating signal generator 9, connected with the optical detector, for generating a disc discrimination signal indicating one of said types of optical discs (col. 4, line 64 et seq.): and

- a controller 22 for controlling switching an input signal or

an output signal of at least one of the light source driving circuit 20, the focusing controlling circuit 13, the tracking control circuit 11, and the digital signal processing circuit 19.